REMARKS

The Office examined claims 1-10 and rejected same. With this paper, none of the claims are changed, none are canceled, and none are added. Thus the application includes claims 1-10 as originally filed.

Claim Rejections under 35 USC §102

At paragraph 3 of the Office action, claim 1 is rejected under 35 USC §102(b) as being anticipated by Josse *et al.* (U.S. 6,104,929).

Applicant would like to begin by reviewing the context for the invention, and in particular the relationships between SNDC and LLC protocol layers, and between NSAPIs and SAPIs, which are depicted in Fig. 5 of the specification.

In GPRS structure, a UE device is provided with a packet switch (PS) connection to another device via a UTRAN or GSM RAN. Packet connection sessions are established and managed by Session Management (SM) (functionality) using Packet Data Protocol (PDP). A PDP context contains all parameters describing a packet data connection and having a prescribed quality of service (QoS).

Several network protocol layers are used in GPRS. In particular, there is a subnetwork dependent convergence protocol (SNDCP) layer and also a logical link (protocol) layer (LLC). The SNDCP layer uses the service primitives provided by the SM sublayer and the LLC layer. NSAPI (Network Service Access Point Identifier) is an index to the PDP context of the PDP that is using the services provided by the SNDCP layer. Each active NSAPI is required to use the services provided by the Service Access

Point Identifier (SAPI) in the LLC layer.[1] (NSAPI is the SAPI for the network protocol layer, whereas SAPI, by itself, is a general term, meaning a SAPI without regard to any particular protocol layer, but in the application and at Fig. 5, the SAPI is the SAPI associated with the LLC layer.)

Problems exist in the cooperation between the SNDC layer and the LLC layer. One NSAPI can be mapped to only one SAPI at any one time, but several NSAPIs can be mapped to the same SAPI. GPRS requires that two PDP contexts with different QoS parameters must not be mapped to the same SAPI. Since in an (operator) network implementation it is common that SAPIs are dedicated to different QoS classes, a change of QoS profile during the connection will usually trigger a change of SAPI. Under current settings, a network message regarding the change of SAPI may be discarded.

In order to avoid a break in data transfer and ensure that the old SAPI is properly disconnected after establishing a new SAPI, the invention provides a procedure (protocol) according to which in case of a mobile (UE) receiving a PDP context modification message, the mobile does not discard at least some of the LLC messages sent by the network, at least not for some period of time, ideally a time deemed long enough that no significant break in data transfer is likely; nor is the PDP context deactivated. Thus, in claim 1, there is a step (60e), responsive to an indication from a network of a change from an old SAPI to a new SAPI, of setting a timer for a period of time. (Claim 8 claims the same invention differently, reciting: the method characterized by the network continuing to provide messages for an old SAPI after providing to a UE device a request

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[1] Relationships between SNDC and LLC protocol layers, and between NSAPIs and SAPIs, are depicted in fig. 5 of the application.

to change to a new SAPI and also providing messages for the new SAPI.)

In contrast, Josse addresses a method that enables mobile users to update their physical location information as they move from one location to another, in order for packet information to be forwarded to the new location. Josse provides a method of updating a PDP context and NSAPI, supported by the SNDCP layer (see col. 2, ll. 26-32). The Josse method does not require, nor does it provide, an update of the SAPI, a logical entity supported by another layer of protocol, i.e. the LLC.

In rejecting claim 1, the Office asserts in the Office action that the method of claim 1, "used by the UE device in responding to a message from the network indicating a change in a ... SAPI ... connection from an old SAPI to a new SAPI" is anticipated by Josse, and relies on Table 3 of Josse for the definition of SAPI.

Applicant respectfully submit that at cited location the information provided only refers to an NSAPI (Network layer Service Access Point Identifier), not a SAPI. As explained above, a SAPI is not to be confused with an NSAPI.

In a like manner, the Office asserts that Josse teaches changing a SAPI from an old SAPI to a new SAPI (col. 1, line 21, through col. 2, line 14). Applicant respectfully submits that at the cited location Josse never introduces network protocol layers in GPRS and how SAPIs are associated to with one particular layer and NSAPIs are associated with another. Also, at the cited location Josse fails to address events--such as a QoS class change--that normally require a reassignment of of SAPIs and instead mentions only an event (change in location) that in fact does not require an update of SAPIs (as explained below).

Further, the Office asserts that in the first step of claim 1, the recitation "responsive to an indication from the network of a change from the old SAPI to the new SAPI" is anticipated by Josse at col. 3, ll. 24-40, which reads:

> The address of a latest Serving GPRS Support Node (SGSN) is provided to a Gateway GPRS Support Node (GGSN) by a special Update SGSN Address Request message which is sent from the SGSN to the GGSN. For a subscriber whose subscription permits, the address of the latest SGSN node is sent in the Update SGSN Address Request message for a qualified packet data protocol (PDP) context. A qualified PDP context (1) has a static PDP address; and (2) is not activated.
>
> The Update SGSN Address Request message can be sent from the SGSN to the GGSN in either a GPRS Attach scenario or an Inter-SGSN Routing Area Update Scenario. In response to the Update SGSN Address Request message, the GGSN sends an Update SGSN Address Response message which advises whether the updating of the address for the SGSN at the GGSN has been successful. [Emphasis added.]

The Office then asserts that the recitation (end of step 1) "of setting a timer for a period of time" is anticipated by Josse at col. 12, lines 35-45, which reads:

> The old SGSN (i.e., SGSN 24_1 stores the address of the new SGSN (e.g., New SGSN Address) until the old MM context is cancelled, to allow the old SGSN 24_1 to forward data packets to the new SGSN 24_2. The LLC Ack parameter in the SGSN Context Response message contains the acknowledgments for each LLC connection used by mobile station (MS) 40. Each PDP Context includes the GTP sequence number for the next downlink N-PDU to be sent to mobile station (MS) 40 and the GTP sequence number for the next uplink N-PDU to be tunneled to GGSN 20. The old SGSN 24_1 starts a timer.

Applicant respectfully submits that it is clear from the above text that the method described by Josse for modifying a PDP context is for situations where the SGSN address changes due to the movement of the mobile user. Unlike a QoS class change event, a SGSN address change normally does not require a SAPI change. Therefore, Josse does not even describe a situation in which a SAPI assignment may be modified, and so cannot be said to disclose a step, responsive to an indication from a network of a

change from an old SAPI to a new SAPI, of setting a timer for a period of time, as recited in claim 1.

Accordingly, applicant respectfully requests that the rejections under 35 USC §102 of claim 1 be reconsidered and withdrawn.

Claim Rejections under 35 USC §103

At paragraph 5 of the Office action, claims 1-10 are rejected under 35 USC §103(a) as being unpatentable over Suumäki *et al.* (US 6,590,905).

In regard to independent claims 1 and 5, the Office cites various parts of Suumäki as teaching that "the address field such as 'SAPI' in the PDP context is obvious for being used to identify the connection end point with its relative priority and QoS on the user/network side of the LLC interface of the GPRS during the handover or relocation." [Emphasis added.]

As noted above, a SAPI is not to be confused with an NSAPI, nor are the corresponding protocol layers supporting each. As defined by the GPRS architecture documents, a SAPI is not a parameter within the PDP context (See Josse, Table 3), nor is it associated with the addressing of the end-point of a connection. A SAPI can be assigned to a NSAPI by the network, but a mere change in PDP context dose not necessarily trigger a SAPI-changing event.

Therefore, a method and a device adapted for the method, of changing a SAPI configuration as in claims 1 and 5, respectively, would not be obvious in view of Suumäki, which discusses only a change of PDP attributes.

Accordingly, applicant respectfully requests that the rejections under 35 USC §103 of claims 1 and 5 be reconsidered and withdrawn.

In regard to independent claims 8 and 9, the Office presents the same argument as used in rejection claims 1 and 5. For the same reasons as presented by applicant in traversing the rejections of claims 1 and 5, it is believed that the invention as in claims 8 and 9 is distinguished from the teachings and suggestions of Suumäki, since, as noted above, Suumäki discusses only a change of PDP attributes.

Accordingly, applicant respectfully requests that the rejections under 35 USC §103 of claims 8 and 9 be reconsidered and withdrawn.

Since all independent claims are believed allowable for the reasons given above, applicant respectfully requests that the rejections of the other claims rejected under 35 USC §103--i.e. claims 2-4, 6-7 and 10--being dependent upon one or another of claims 1, 5, 8 and 9, also be reconsidered and withdrawn.

Conclusion

For all the foregoing reasons it is believed that all of the claims of the application are now in condition for allowance, and their passage to issue is earnestly solicited.

Respectfully submitted,

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